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JOHN HYDE, Statistician.

STATISTICS

ON THE

FRUIT INDUSTRY

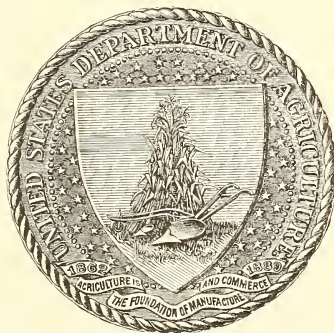
OF

CALIFORNIA.

BY

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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF THE STATISTICIAN,
Washington, D. C., November 21, 1901.

SIR: I have the honor to transmit herewith a report on Statistics on the Fruit Industry of California, prepared, under the general direction of the Statistician, by Mr. Edwin S. Holmes, jr., a special agent of the Division of Statistics, and to recommend the publication of the same as Bulletin No. 23 of this office.

Respectfully,

JOHN HYDE,
Statistician.

Hon. JAMES WILSON,
Secretary of Agriculture.

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STATISTICS ON THE FRUIT INDUSTRY OF CALIFORNIA.

DEVELOPMENT OF THE INDUSTRY.

The fruit industry of California was practically begun during the establishment of the missions of the Franciscan monks. As early as 1792 there were about 5,000 trees growing at the different missions; apples, pears, oranges, limes, lemons, and olives constituted the greater proportion of these trees, and as they nearly all did well they proved the possibility of fruit culture in California.

In 1830 some attention was given to the cultivation of fruit in Sonoma County, and several small orchards were planted. About ten or fifteen years later the planting of fruit trees began in Los Angeles and Yolo counties, but only in a small way. The fruit era, however, opened about the time of the great gold excitement of 1849. The majority of the immigrants to the State thought of nothing but gold; but a few of the more conservative obtained possession of some of these old orchards and found a handsome profit in selling their fruit at the then exorbitant prices. The demand for all kinds of fruit has since that time steadily increased, and within recent years fruit growing has come to be one of the most important of California's many industries.

The climate of the State is particularly favorable to the fruit industry, and the soil in almost every section possesses practically all the qualities required for the successful cultivation of the growing plant and the matured tree.

VARIETIES GROWN.

There are many kinds of fruit produced successfully in California which can not be raised in most of the Eastern States. This is particularly true of the citrus and subtropical fruits which grow in fusion and pay handsomely in California.

There is hardly a section of the State in which there may not be found large orchards devoted to one or more of the many varieties of fruit trees. The high mountain valleys are adapted in both climate and soil to the raising of the hardy northern varieties of fruits, and between these and the low valleys of the south may be found conditions of climate admirably suited to the production of nearly all kinds of fruit known to domestic commerce.

APPLES.—The apple does phenomenally well along the coast where the temperature is not too high, in the mountain counties, and in the

foothills of the Sierra and Coast ranges; the fruit is very fine, and the crop is an exceedingly profitable one, when grown within reasonable distance of transportation lines.

PEACHES.—Peaches are grown extensively and thrive best in the higher portions of the warm valleys and the lower foothills. The peach is probably the favorite deciduous fruit of California. It ripens early, has a good flavor, and yields profitable returns as early as the second year after planting.

PEARS.—Pears grow to perfection over a much wider range of the State than most other fruit, the tree seeming to adapt itself readily to diversity of soil and climate. It also stands exposure well.

APRICOTS.—The commercial cultivation of apricots in the United States is practically confined to the Pacific coast. This is one of the choicest of fruits, and does particularly well in California.

QUINCES.—The quince thrives wherever apples and pears are grown. The fruit is of very large size and of finest quality.

CHERRIES.—The cherry crop is a remunerative one, and this fruit is grown profitably in many localities.

FIGS.—The fig grows in all sections of the State. The fruit is larger and of better quality in the warmer regions.

OLIVES.—Olives thrive all over the State, except in the higher altitudes of the Sierras and in the low lands of the coast. The olive industry is as yet hardly beyond its infancy in California, but the bearing trees can be found in almost every county, and all bid fair to make paying returns.

PRUNES.—California prunes are of superior taste and quality, and the crop is of great and increasing commercial importance. Prunes are more extensively cultivated than any other fruit of the State. The yield is very large, trees in full bearing yielding annually from 150 to 300 pounds of green fruit each.

PLUMS.—Plums, while not so extensively cultivated as prunes, grow to perfection in many localities and yield abundant returns.

CITRUS FRUIT.—The extraordinary profits of citrus-fruit cultivation have attracted wide attention, and the industry has developed wonderfully in the last few years. Much of the land of the State is especially adapted to the cultivation of citrus fruit, and while by far the greater portion of the commercial crop of the State is at present grown in southern California, fruit of this character can be safely and profitably grown all along the foot hills of the Sierra Nevada Mountains, from San Diego to Tehama County, a distance of over 700 miles. This area is known as the thermal belt, and varies in width from 3 to 30 miles. Strange to say, the mean summer temperature in this belt is higher in the northern part than in the south-

ern, but in the winter the mean temperature is higher in the southern than in the northern section. The mean temperature for the entire year, however, does not vary more than 4° throughout the whole belt.

ACREAGE AND NUMBER OF TREES.

According to assessors' reports, in 1900 there were in the State 16,192,876 bearing fruit trees and 13,209,411 non-bearing, an aggregate number of 29,402,287 trees, covering an area of 452,252 acres.

Of the total number of trees, 8,072,843 were prune trees, 5,521,967 peach, 3,652,454 orange, 2,744,910 apricot, and 2,162,740 olive trees; requiring 116,997 acres of ground for the prune trees, 80,029 acres for the peach trees, 52,934 for the orange trees, 39,781 for the apricot trees, and 45,057 for the olive trees. In addition to this, there were 157,000 acres devoted to the cultivation of grapes.

The following table, compiled from assessors' reports to the State Board of Equalization, shows the number of fruit trees and the acreage of each kind of fruit in the State in 1900:

Number and acreage of each kind of fruit trees in California in 1900.

[Assessors' returns considered too low to be strictly accurate; about 20 per cent should be added to the figures in the table.]

Kinds of trees.	Number of trees.			Acreage in fruit.
	Bearing.	Non-bearing.	Total.	
Apple ¹	1,029,582	547,214	1,576,796	22,852
Almond ¹	1,001,009	602,476	1,603,485	23,239
Apricot ¹	1,628,834	1,116,076	2,744,910	39,781
Cherry ¹	394,836	179,794	574,630	8,328
Fig ²	135,007	81,059	216,066	4,501
Grapes (all kinds)				157,000
Lemon ¹	263,240	642,502	905,742	13,127
Lime ³	250	100	350	3
Nectarine ¹	15,625	257	15,882	230
Orange ¹	1,683,885	1,968,569	3,652,454	52,934
Olive ²	364,811	1,797,929	2,162,740	45,057
Peach ¹	3,285,597	2,236,370	5,521,967	80,029
Pear ¹	987,921	532,035	1,519,956	22,029
Plum ¹	7,632	4,406	12,038	174
Pomelo ²	2,233	22,227	24,460	510
Prune ¹ (French)	4,500,313	2,721,659	7,221,972	104,666
Prune ¹ (other kinds)	507,986	342,885	850,871	12,331
Quince ³	4,988	692	5,680	53
Walnut ⁴	255,843	279,918	535,761	19,843
Miscellaneous	123,284	133,243	256,527	2,565
Total	16,192,876	13,209,411	29,402,287	609,252

¹ Averaged 25 feet apart.

² Averaged 30 feet apart.

³ Averaged 20 feet apart.

⁴ Averaged 40 feet apart.

DISTRIBUTION OF TREES.

Statistics of the number of fruit trees in each county of the State are not available for a later date than 1898, but figures for that year will indicate approximately the relative number of trees in the two sections of the State commonly known as northern and southern

California, the Tehachapi Mountains forming the dividing line between the two sections.

In 1898 assessors reported that there were 27,538,789 fruit trees of all kinds in California. Of this number, 17,026,748 were bearing and 10,512,041 non-bearing.

Northern California had 19,171,596 fruit trees of all kinds, amounting to 69.6 per cent of the total number in the State, the remaining 8,367,193 trees, or 30.4 per cent of the total number, being in southern California.

Of the bearing trees, 13,160,823, or 77.3 per cent, were in northern California, and 3,865,925 trees, or 22.7 per cent of the total number in bearing, were in southern California.

The non-bearing trees were more equally distributed, however, 6,010,773, or 57.2 per cent, being in northern California, and 4,501,268, or 42.8 per cent, in southern California.

The following table, compiled from assessors' reports to the State Board of Equalization, shows the number of fruit trees in each county in the State in 1898:

Total number of bearing and non-bearing fruit trees in California in 1898.

[Assessors' returns considered too low to be strictly accurate; about 20 per cent should be added to the figures in the table.]

Counties.	Number of trees.		
	Bearing.	Non-bearing.	Total.
Northern California:			
Alameda	633,450	353,300	986,750
Alpine	875	550	1,425
Amador	20,975	9,300	30,275
Butte	458,555	7,795	466,350
Calaveras	22,075	9,975	32,050
Colusa	114,300	117,950	232,250
Contra Costa	325,370	108,640	434,010
Del Norte	10,291	652	10,943
Eldorado	194,520	45,855	240,375
Fresno	545,389	312,191	857,580
Glenn	164,500	22,100	186,600
Humboldt			
Inyo	30,248	3,861	34,109
Kern	127,860	104,109	231,969
Kings	343,625	75,613	419,238
Lake	85,018		85,018
Lassen	20,153	3,664	23,817
Madera	49,099	2,736	51,835
Marin	32,480	8,922	41,402
Mariposa	37,000	41,050	78,050
Mendocino	89,518	67,301	156,819
Merced			
Modoc	19,237	4,283	23,520
Mono			
Monterey	67,451	51,239	118,690
Napa	428,975	225,295	654,270
Nevada	86,375	10,450	96,825
Placer	758,387	190,480	948,867
Plumas	4,300	1,000	5,300
Sacramento	330,450	340,180	670,630
San Benito	35,200	9,025	44,225
San Francisco			
San Joaquin	274,216	127,452	401,668
San Luis Obispo	361,351	183,512	544,863
San Mateo	42,318	38,550	80,868
Santa Barbara	123,956	132,776	256,732

Total number of bearing and non-bearing fruit trees in California in 1898—Cont'd.

Counties.	Number of trees.		
	Bearing.	Non-bearing.	Total.
Northern California—Continued.			
Santa Clara	2, 893, 665	1, 127, 545	4, 021, 210
Santa Cruz	536, 588	252, 119	788, 707
Shasta			
Sierra	225	7, 920	8, 145
Siskiyou			
Solano			
Sonoma	829, 742	360, 329	1, 190, 071
Stanislaus	129, 005	80, 200	209, 205
Sutter			
Tehama	488, 949	745, 176	1, 234, 125
Trinity	5, 946	4, 495	10, 441
Tulare	727, 695	204, 000	931, 695
Tuolumne	21, 935	9, 390	31, 325
Ventura	400, 776	406, 993	807, 769
Yolo	1, 114, 300	141, 500	1, 255, 800
Yuba	154, 480	61, 300	215, 780
Total for northern California	13, 160, 823	6, 010, 773	19, 171, 596
Southern California:			
Los Angeles	1, 083, 696	1, 739, 675	2, 823, 371
Orange	424, 306	382, 585	806, 891
Riverside	1, 188, 052	560, 670	1, 748, 722
San Bernardino	759, 910	1, 013, 735	1, 773, 645
San Diego	409, 961	804, 603	1, 214, 564
Total for southern California	3, 865, 925	4, 501, 268	8, 367, 193
Total for State	17, 026, 748	10, 512, 041	27, 538, 789

TRANSPORTATION.**SHIPMENTS BY RAIL.**

Transportation of fruit from California forms quite an item in the annual tonnage of the transcontinental railroads, and especial attention is given to the movement of this class of freight. During the height of the shipping season special schedules are put into effect between California and Eastern points and every possible effort is made to insure the speedy delivery of the freight in good condition at its final destination. There were 88,189.2 tons of green deciduous fruits shipped out of the State by rail in 1900, of which 87,990.5 tons were shipped from northern California points and but 198.7 tons from southern California.

Northern California also shipped by far the greater amount of dried fruits, raisins, and canned fruits, shipping 84,899.9 tons of dried fruits, 34,217.5 tons of raisins, and 45,679.9 tons of canned goods, against 3,696.4 tons of dried fruits, 1,611.2 tons of raisins, and 4,928.6 tons of canned goods from the southern division of the State.

Southern California has at present, however, a practical monopoly of the citrus-fruit industry, having in 1900 shipped 218,183 tons, against 8,273.6 tons from northern California. The shipments of citrus fruits from the southern district being larger than the total

shipments of green deciduous, citrus, dried fruit, and raisins from the portion of the State north of the Tehachapi Mountains.

The following table, compiled from reports of the State Board of Trade of California, shows the shipments out of the State by rail of the various kinds of fruit from northern and southern California:

Shipments of fruit out of California by rail in 1900.

[Tons of 2,000 pounds.]

Place of shipment.	Varieties of fruit shipped.				
	Green deciduous.	Citrus.	Dried.	Raisins.	Canned.
Northern California:	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
San Francisco.....	51.9	76.9	5,548.0	74.8	16,183.1
Oakland.....	1,990.0	-----	530.0	-----	7,220.7
San Jose.....	17,978.6	0.4	32,270.4	5.9	7,001.6
Stockton.....	10,864.1	5,089.9	23,599.4	29,888.7	4,608.8
Sacramento.....	52,794.3	439.5	13,157.8	878.9	6,977.8
Marysville.....	4,159.7	2,666.9	5,612.9	326.3	4,128.9
Interior points not designated.....	151.9	-----	4,181.4	3,042.9	459.0
Total for northern California.....	87,990.5	8,273.6	84,899.9	34,217.5	¹ 45,679.9
Southern California:					
Los Angeles.....	89.8	133,864.8	1,748.5	885.4	4,172.7
Orange County.....	-----	13,512.3	492.7	69.3	139.1
Riverside County.....	26.4	35,460.6	130.1	39.1	-----
San Bernardino County.....	-----	29,036.0	1,265.5	273.8	616.8
San Diego County.....	82.5	6,309.3	59.6	343.6	-----
Total for southern California.....	198.7	218,183.0	3,696.4	1,611.2	4,928.6
Total for State.....	88,189.2	226,456.6	88,596.3	35,828.7	50,608.5

¹ Contains 3,116 tons of canned vegetables.

SHIPMENTS BY SEA.

To the shipments by rail from northern California should be added shipments by sea from San Francisco, amounting to 32,817.1 tons of all classes of fruit, as shown in detail in the following table:

Shipments of fruit out of California by sea in 1900.

[Tons of 2,000 pounds.]

Place of shipment.	Varieties of fruit shipped.				
	Green deciduous.	Citrus.	Dried.	Raisins.	Canned.
San Francisco.....	<i>Tons.</i> ¹ 2,987.3	<i>Tons.</i> ¹ 90.0	<i>Tons.</i> ¹ 1,457.5	<i>Tons.</i> ¹ 218.3	<i>Tons.</i> ² 28,064.0

¹ Shipments to Hawaii not included; figures not obtainable.

² Shipments to Hawaii included to June 14, 1900.

INCREASE OF SHIPMENTS.

Comparative shipments by rail and sea for a series of years show that there has been a steady growth of total shipments of fruit from California, the most marked and steady increase being in shipments

of citrus fruits, which increased from 34,209.6 tons in 1890 to 226,546.6 tons in 1900, an increase of 192,337 tons, or 562.2 per cent, the highest point being reached in 1900. Shipments of green deciduous fruits have not increased in like proportion, however. Although there has been a marked increase in such shipments since 1890, they have not materially increased during the past few years, shipments in 1900 being less than those of 1899 and but little larger than those of 1894.

Dried fruit shipments have had a very steady growth, total shipments amounting to 90,053.8 tons in 1900, against 32,297.5 tons in 1890.

Shipments of raisins reached their maximum in 1898, in which year 47,796.3 tons left the State, against 20,560.1 tons in 1890. In 1899 and 1900 there was a considerable falling off in the shipment of raisins, about 36,000 tons being shipped in each of those years.

Shipments of canned goods show many fluctuations; from 40,060.9 tons in 1890 they decreased to 31,626.3 tons in 1893, and with numerous fluctuations finally reached 75,556.9 tons in 1900, the highest point in the entire period.

The following table shows by years the total shipments by rail and sea of each kind of fruit out of California from 1890 to 1900:

Total annual shipments of fruit out of California by rail and by sea, 1890 to 1900.

[Tons of 2,000 pounds.]

Year.	Varieties of fruit.					Total.
	Green deciduous.	Citrus fruits.	Dried fruits.	Raisins.	Canned fruits.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1890.....	34,042.0	34,209.6	32,297.5	20,560.1	40,060.9	161,170.1
1891.....	50,548.9	46,921.4	32,919.0	22,779.1	32,395.0	185,563.4
1892.....	59,374.5	34,857.5	29,762.2	26,673.4	55,273.7	205,941.3
1893.....	80,112.3	80,757.0	45,386.2	37,409.9	31,626.3	275,291.7
1894.....	90,692.2	58,964.0	51,828.2	46,954.4	60,352.6	308,791.4
1895.....	66,254.8	115,825.5	61,386.4	46,390.1	41,395.5	331,252.3
1896.....	57,638.3	99,156.0	48,522.8	34,434.6	45,546.9	285,298.6
1897.....	72,350.2	98,547.0	75,159.7	39,065.8	73,464.7	358,587.4
1898.....	69,732.2	180,658.9	76,662.7	47,796.3	52,219.7	427,069.8
1899.....	96,943.6	121,916.8	86,925.3	36,008.7	75,240.0	427,034.4
1900.....	91,176.5	226,546.6	90,053.8	36,047.0	75,556.9	519,380.8

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